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## Designing an experiment for four-wave mixing with optical nanofiber evanescent dipole-trapped atoms.

*Saturday, November 26, 2022 4:00 PM (2 hours)*

The theoretical aspect of the four-wave mixing for a four-level diamond scheme in  $^{87}\text{Rb}$  atoms will be discussed. Also, the experimental realization of this study will be presented. In this realization,  $^{87}\text{Rb}$  are cooled and further trapped in the vicinity of a nanofiber-based waveguide using a two-color evanescent dipole trap scheme. Then, the four-wave mixing is applied on the trapped atoms in the vicinity of the waveguide giving rise to the better coupling of the generated photon.

### Category

Other

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